



Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A free fall simulator, comprising characterized in that it comprises:
 - a lower compression chamber (22);
 - a plurality of fans, wherein the fans are arranged in a centripetal configuration and the outlets of the fans open in a vicinity of a lower periphery of the chamber, and
 - a compression grid placed in an upper tapered part of the chamber;
 - in the vicinity of whose lower periphery there open the outlets of a plurality of fans (24) arranged in a centripetal configuration, and
 - in whose upper tapered part there is placed a compression grid (30);
 - a cylindrical chamber (36) delimiting a maneuvering chamber space, which is located immediately above the compression chamber (22), and which is designed to be traversed by a homogenous flow of rising air having a speed gradient decreasing regularly from the bottom to the top; and
 - a generally cylindrical superstructure which encloses at least the maneuvering chamber (14) of the simulator, wherein the upper part of the superstructure which terminates in its upper part in a dome (12) which covers said maneuvering chamber of the simulator, and which is arranged to promote a downward circulation of the air leaving the maneuvering chamber toward the fan inlets.

2. (Currently amended) The simulator as claimed in claim 1, wherein characterized in that the an inner surface of the compression chamber is shaped to generate a homogeneous air flow to ensure the stability of the operator in the maneuvering chamber.

3-23 (Cancelled)

24. (New) The simulator as claimed in claim 1, wherein the lower compression chamber includes a bottom part with a general cylindrical shape that extends upwards into a truncated conical part.

25. (New) The simulator as claimed in claim 24, wherein the inner wall of the truncated conical part includes an annular bend that projects towards the interior of the compression chamber, preventing separation an air stream along the inner wall of the truncated conical part.

26. (New) The simulator as claimed in claim 24, wherein the fans open in a wall of the bottom part with a constant angular spacing.

27. (New) The simulator as claimed in claim 1, wherein the compression grid is in the form of a grid with a mesh size of 500 mm x 500 mm and is adapted to generate a pressure drop of approximately 150 Pa.

28. (New) The simulator as claimed in claim 1, wherein an air speed at inlets of the fans is on the order of 7 m/s and an air speed at outlets of the fans is on the order of 40 m/s.

29. (New) The simulator as claimed in claim 1, wherein the cylindrical chamber includes a generally cylindrical bottom part and a generally diverging conical part, wherein the generally cylindrical bottom part extends upwardly to the generally diverging conical part.

30. (New) The simulator as claimed in claim 29, wherein an angle formed by the walls of the generally diverging conical part to the vertical is less than approximately 6°.

31. (New) The simulator as claimed in claim 1, wherein the cylindrical chamber is fitted with a safety net in each of a top part and a bottom part of the cylindrical chamber.

32. (New) The simulator as claimed in claim 31, wherein the cylindrical chamber includes an additional comfort net that is removably fixed to a periphery of the cylindrical chamber.

33. (New) The simulator as claimed in claim 1, wherein the cylindrical chamber is adapted so that the following speeds are distributed in the cylindrical chamber:

bottom part of cylindrical chamber: approximately 70 m/s;

median part of the cylindrical chamber: approximately 50 m/s;

top part of the cylindrical chamber: near a limit lift speed of approximately 45 m/s.